

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.-49. (Canceled)

50. (Previously Presented) A gas stream vortex mixing system for mixing a gas stream, the gas stream vortex mixing system comprising:

a duct provided with an inner surface defining a passageway for communicating a gas stream;

a wing having a first end, a second end, a upper surface, and a lower surface, wherein the wing is non-movably coupled within the passageway of the duct and configured to shed a vortex in the gas stream at an edge of the second end of the wing, the fist end and second end extend into the passageway, the first end positioned upstream of a direction of travel of the gas stream, and the second end positioned downstream of the direction of travel of the gas stream; and

a nozzle to discharge a mixture into the gas stream, the nozzle located adjacent the edge of the second end of the wing such that the nozzle discharges the mixture into the vortex in the gas stream at a point wherein the vortex is shed, wherein the nozzle is positioned to discharge the mixture in the direction of travel of the gas stream through the passageway of the duct to promote mixing of the mixture with the gas stream.

51.-73. (Canceled)

74. (Withdrawn) The combination comprising:
a duct provided with an inner surface defining a passageway;
a gas stream, moving through the passageway;
a vortex generator having a first end, a second end, an upper surface, and a lower surface, wherein the vortex generator is non-movably coupled within the passageway of the duct between an upstream location and a downstream location of the gas stream,
the vortex generator is configured to shed a predefined, ordered vortex in the gas stream at an edge of the second end of the vortex generator,
the fist end and second end extend into the passageway, the first end adjacent the upstream location of the gas stream and the second end positioned adjacent the downstream location of the gas stream; and
a nozzle operable to discharge a mixture into the gas stream, wherein the nozzle is positioned at a location to inject the mixture at a point that facilitates mixing of the mixture in the predefined, ordered vortex.